



Agency for Toxic Substances & Disease Registry

Public Health Assessments & Health

Consultations

PUBLIC HEALTH ASSESSMENT

TUTU WELLFIELD

ST. THOMAS, ST. THOMAS COUNTY, VIRGIN ISLANDS

CONCLUSIONS

1. The Tutu Wellfield National Priorities List (NPL) site, St. Thomas, U.S. Virgin Islands, poses a public health hazard for past, present and possible future ingestion of contaminated groundwater. Based upon the site history, ATSDR has estimated that people may have ingested contaminated groundwater for up to 20 years (a worse case assumption). An increased risk of cancer might exist for those people, as well as for people who are currently using contaminated groundwater, or who may use it in the future. There is a strong likelihood that commercial and private wells may currently be open or may be opened in the future by individuals to supplement water supplies during water shortages. If those events occur, an increased risk of cancer might exist. In addition, wells that are not currently contaminated and wells that may be constructed in the future have the potential to become contaminated from the groundwater plume. An increased risk of cancer may also exist in that case.
2. A public health hazard exists for possible inhalation and dermal exposure to volatile organic compounds (VOCs) when contaminated groundwater is used for secondary purposes inside private homes (i.e., washing, showering, flushing, and bathing). The possibility exists for adverse health effects to develop after exposure to VOCs through secondary exposures. In addition, the possibility exists that these wells could be used for potable sources. There is also a chance that the concentrations in these wells could increase if a dense nonaqueous phase liquids (DNAPL) enters the wells. If that occurs, it could increase the chance that adverse health effects could develop.
3. If people did not receive contaminated potable water for more than 10 years, their chance of developing cancer would be reduced significantly.
4. The remedial alternative selected by the U.S. Environmental Protection Agency would require all private and commercial wells within the area of contaminated groundwater to be closed. The remedial alternative would also require the treatment of the contaminated soil and groundwater. If implemented, the proposed remedial plan should stop any on-going exposures and prevent any future exposures to site-related contaminants and would protect the health of the public.
5. A physical hazard exists on the property of the Virgin Island Housing Authority (VIHA). Children and small animals could conceivably fall into the opening of the cistern and experience some injury.
6. The presence of the farm animals near the cistern is a biological hazard to public health as

their presence may lead to unsanitary conditions around the cistern.

RECOMMENDATIONS

A. Cease/Reduce Exposure Recommendations

1. Restrict access to the cistern on the VIHA property. Implement institutional controls to prevent improper use of the cistern when used to supplement the water supply.
2. Based on volatile organic contamination, the wells with concentrations above 100 ppb total volatile organic compounds should not be used, even for secondary purposes inside the homes (i.e., washing, showering, flushing, and bathing). These include the LaPlace, Matthias, Smith, and Steele private wells.
3. Ensure that the closed commercial wells are not used to supplement water supplies.
4. Continue to monitor down gradient wells for site-related contaminants. Any well found to be contaminated with site-related contaminants at levels of public health concern should not be used for potable water or secondary uses.
5. The remedial alternative selected by the U.S. Environmental Protection Agency should be implemented as soon as possible.

B. Health Activities Recommendation Panel (HARP) Determinations

The data and information developed in the public health assessment for the Tutu Wellfield National Priorities List site in St. Thomas, U.S. Virgin Islands, have been evaluated by the Health Activities Recommendation Panel (HARP) for appropriate follow-up with respect to health actions. Available information indicates that exposure of individuals to contaminants at levels of public health concern has occurred in the past and may be presently occurring. For these reasons, HARP has determined that the following actions are indicated at this time:

- (1) Community health education, to assist the community in understanding their potential for exposure, in mitigating effects of exposure, and in assessing adverse health effects that may be related to those exposures.
- (2) Health professions education, to improve knowledge, skill and behavior of health professionals in their interaction with community members potentially exposed to site-related contaminants, particularly VOCs.

If information becomes available in the future which indicates that human exposure to hazardous substances is occurring or has occurred in the past at levels of public health concern, ATSDR will reevaluate this site for any additional indicated follow-up.

C. Public Health Action Plan

The purpose of the Public Health Action Plan (PHAP) is to ensure that this public health

assessment not only identifies public health hazards but also provides a plan of action designed to mitigate and prevent adverse human health effects resulting from exposure to hazardous substances in the environment.

ATSDR in cooperation with appropriate public health agencies will evaluate the feasibility and resources to pursue implementing the health actions determined to be needed by the HARP. In addition, ATSDR will collaborate with appropriate federal, state, and local agencies to pursue the implementation of the recommendations outlined in this public health assessment.

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